

Notices of the work of Morgan W. Crofton, W. H. H. Hudson, Benjamin Williamson have already appeared in the Proceedings. In Sir James Stirling, Senior Wrangler of 1860, lately Lord Justice of Appeal, we have lost another of the survivors of our early days, whose interest in our science never flagged, whose mathematical training and gifts were the foundation of a legal and judicial eminence not often arising in a generation. In William Esson, Savilian professor, and John Griffith we have lost two Oxford mathematicians long connected with us. Though F. W. Frankland, an early member, had passed out of sight owing to distance of domicile, his combination of mathematical and philosophical interests had not become dormant. I may be permitted to add the name of John Henry Poynting; though his life-work attached him to sister societies, his wide physical outlook, combined with mental exactness and penetration, has made for him an enduring name in mathematical, as well as experimental, physics.

It is our pride and sad privilege to recall the names of the cultivators of our science who, in response to their country's appeal in time of national peril, have already laid down their lives on her behalf. In E. K. Wakeford, scholar of Trinity College, Cambridge, not a few of us had recognised a future leader in geometrical science. A colleague more senior and more widely known, S. B. McLaren, professor of mathematics at Reading, coming from Australia, and taking a high degree at Cambridge, had become a learned and philosophical inquirer in the difficult domain of statistical molecular dynamics and the relations of the æther to material systems; the work which formed the basis of the recent award of an Adams prize may remain, I fear, unpublished in any finally revised form. We are entitled also to recall the name of H. G. J. Moseley, who, though he would not have claimed to be a mathematician, had in a brief and brilliant career at Oxford and Manchester contributed fundamentally to the data of the mathematical physics of the future, by revealing the earliest universal and unmistakably quantitative relation in the fascinating domain of the correlations of the chemical elements.

Such heavy sacrifices of colleagues who could so ill be spared we must deeply deplore, but not as if they were made in vain. May we not detect beyond them, and on account of them, the promise of nobler and more disinterested times, when the vast destruction of perishable material resources will be far more than compensated in the remembrance of the heroism of the youth of our generation, and in the gain in moral and intellectual wealth that it will stimulate as an abiding possession?

The world's great age begins anew,  
The golden years return.  
The Earth doth like a snake renew  
Her winter weeds outworn.

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A brighter Hellas rears its mountains  
From waves serener far:  
A new Peneus rolls his fountains  
Against the morning star.

### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

LONDON.—The title of emeritus professor of physics in the University of London has been conferred by the Senate on Dr. F. T. Trouton, who held the Quain chair of physics at University College from 1902 to 1907, and after the incorporation of the college held it in the University from 1907 to 1915.

The following doctorates have been conferred:—In anthropology, Mr. B. G. Malinowski, an internal student, of the London School of Economics, for a thesis entitled "The Natives of Mailu"; in botany,

Mr. F. J. F. Shaw, an internal student, of the Imperial College of Science and Technology (Royal College of Science), for a thesis consisting of five papers on mycology; in economics, Miss E. D. Proud, an internal student, of the London School of Economics, for a thesis entitled "Welfare Work: Employers' Experiments for Improving Working Conditions in Factories"; in physics, Mr. David Owen, an external student, for a thesis consisting of two papers on "Solid Rectifying Contacts," and subsidiary contributions; in psychology, Mr. G. H. Miles, an external student, for a thesis entitled "Preference and Affective Influence as Factors in Recall," and subsidiary contributions; in engineering, Mr. N. W. McLachlan, an external student, for a thesis entitled "Magnetic Properties of Iron," and subsidiary contributions.

It is announced that friends of the University College of Wales, Aberystwyth, have expressed their intention of contributing 100,000*l.* to the funds of the college, subject to a reservation of their right to make proposals to the council as to either the capital or the income.

The governors of the Royal Technical College, Glasgow, at the request of certain donors, offer prizes, amounting to 70*l.*, for essays on the best methods of training and employing in industries, other than agriculture, returned soldiers and sailors, maimed or otherwise. The prizes will be awarded by a committee of the governors, and may be withheld in the event of no essay of sufficient merit being submitted. Essays must be sent in not later than March 1, 1917, addressed to the director, the Royal Technical College, Glasgow.

We learn from the issue of *Science* for November 17 that the General Education Board and the Rockefeller Foundation have each granted 200,000*l.* for the establishment of a medical department in the University of Chicago. This gift brings Mr. Rockefeller's contributions to the University up to nearly 7,400,000*l.* The University will set aside at least 400,000*l.* for the same purpose, will give a site valued at 100,000*l.*, and will raise a further sum of 660,000*l.* The medical school will therefore start with an endowment of some 1,600,000*l.*

At the request of the Right Hon. A. Henderson, when President of the Board of Education, the Royal Drawing Society has presented to the Committee on the Teaching of Science a memorial setting forth the value to the scientific worker of drawing and the cognate crafts, and the need for including drawing as an integral part of general education. This, the society maintains, is best accomplished, not by special classes, but by encouraging the faculty which is manifested in nearly all children, and by making it a natural mode of expression in the various branches of school work, e.g. history, geography, nature-study, and physical science. The memorial is signed by H.R.H. the Princess Louise, as president, and by many distinguished workers in pure and applied science, some of whom are members of the society's council. In connection with the Conference of Educational Associations, the society has arranged a discussion on the subject, with lantern illustrations, at the University of London, on January 1, at 5.30 p.m. Among the speakers will be Dr. P. S. Abraham, Dr. F. A. Bather, Mr. J. P. Maginnis, and Mr. Ablett.

The first meeting of the Senate of the new University of Mysore was held on October 12. The proceedings are reported in the *Educational Review* (Madras) for October. In 1913-14 two educational officers of the State studied modern university conditions in foreign countries; a draft scheme drawn up in November last year embodied the joint views of the

Government of India, the deputation, and various public officials; in April last a committee was appointed to give effect to the draft scheme, and the Bill to establish and incorporate a university in Mysore was unanimously passed last July. There are at present two constituent colleges, the Maharaja's College at Mysore and the Central College at Bangalore. Degrees (B.A. and B.Sc.) may be obtained after a continuous three-years' course, and a course leading to a degree in teaching is to be established in the near future. There are 890 students under university supervision, and there are twenty-two professors or assistant-professors. The new University is the first offshoot of the University at Madras, and it is foreshadowed that other universities may be founded at Travancore and Hyderabad. A scheme of university extension work is under consideration. The Chancellor, H.H. the Maharaja, in his speech, stated that the new University was the first to be established outside the limits of British India.

THE "Handbook" of the West Riding of Yorkshire Education Committee is published in parts, which deal respectively with the various grades of education aided by the committee. The pamphlet numbered Section X. of Part II. gives full particulars of the scholarships and exhibitions to be offered in 1917 for the pursuit of higher education. The committee appears to have made provision for the needs of every class of student in the area over which it presides. Among the scholarships and exhibitions offered may be noticed the fourteen county major scholarships of the estimated value of 60*l.* to 65*l.* per annum to be held at universities, university colleges, or other institutions of higher education; the four county technological scholarships of the value of 60*l.* per annum; and others of the value of 50*l.* or less, tenable for day courses or for combined day and evening courses at institutions where higher technical instruction is carried on, and intended for young workmen having three years' general practical experience in an occupation; the county scholarships for women to enable them, for example, to be trained in midwifery and nursing, horticulture, and other vocations; the county agricultural exhibitions; and the travelling scholarships awarded as occasion may arise. Full particulars of the scholarship scheme may be obtained from the Education Department, County Hall, Wakefield.

## SOCIETIES AND ACADEMIES.

### LONDON.

**Royal Society**, December 7.—Sir J. J. Thomson, president, in the chair.—J. T. **Carter**: The cytomorphosis of the marsupial enamel-organ and its significance in relation to the structure of the completed enamel.—Margaret **Tribe**: The development of the pancreas: the pancreatic and hepatic ducts in *Trichosurus vulpecula*. The history of the three pancreatic primordia has been followed out in detail. Their development is traced through the earlier stages where the three are separate from one another; through the later stages where fusion has occurred, but where the primordia are still individually recognisable, up to the late pouch-fœtus in which the identification of the various component parts of the gland is still possible.—H. J. **Watt**: The typical form of the cochlea and its variations. The data and conclusions may be summed up by saying that the cochlea is built according to a constant plan, of which the scale alone varies from case to case. This scale shows a decidedly high correlation with the size of the organism as a whole. A change of scale will obviously alter all the dimensions recorded except the number of whorls. But even that

number, when it varies independently, does not alter the other dimensions of the cochlea. The only other variant thus far detected is the rate of curvature of the spiral, which is greater in the bigger scale organs.—Dr. A. D. **Imms**: The structure and biology of *Archotermopsis*, together with descriptions of new species of intestinal protozoa, and general observations on the Isoptera. *Archotermopsis wroughtoni*, Desn., is exclusively confined to coniferous forests in the N.W. Himalaya, and lives in dead timber, no true nest being constructed. The queen exhibits no indications of degeneration or increase of size common to most species of Termitidæ. True workers are absent, but gynæcoid, egg-laying, worker-like forms occur. The soldiers are remarkable in retaining the external secondary sexual characters, and the gonads in this caste, and in the worker-like forms also, are fully developed. Abundant protozoa occur in the large intestine of the "sterile" castes and nymphs, they are scarce in the winged forms, and absent in the queens and young larvæ. These organisms usually have been regarded as parasites, but it appears more probable that they are symbiotic in their relations to their hosts. By breaking down ligneous matter they contribute towards the digestion of the latter by the Termites. Polymorphism in Termitidæ is not adequately explained on the grounds of special nutrition, nor does the theory of "castration parasitaire" account for the observed facts. The Mendelian inheritance of mutations appears to offer a reasonable solution of several of the outstanding difficulties associated with polymorphism and the inheritance of germinal characters in sterile castes. *Archotermopsis* is one of the most primitive of the Termitidæ, and its structure and biometrics throw light upon important biological problems.—J. J. **Guest** and F. C. **Lea**: Torsional hysteresis of mild steel. In this paper a series of experiments is described which show that, when mild steel is subjected to a torsional reversal of stress, the material does not follow Hooke's law, and that there is a distinct stress-strain hysteresis loop even for comparatively small ranges of stress.

**Physical Society**, November 24.—Prof. C. V. Boys, president, in the chair.—H. R. **Nettleton**: The measurement of the Thomson effect in wires. The paper describes how absolute measurements of the Thomson effect may be made in wires. The theory is fully worked out, and the sources of error likely to arise—especially owing to the smallness of the area of cross-section—are considered. The method is sensitive, consistent, and very rapid; its ultimate object is to determine the Thomson effect at different temperatures in a number of metals, both rare and base, at the same time, and with the same specimens, finding their thermo-electric powers.—C. R. **Darling** and A. W. **Grace**: The thermo-electric properties of fused metals. One of the authors has for some time been investigating the possibility of using base metal thermo-couples at temperatures above the melting point of one of the constituents. For this purpose it was necessary to determine whether any peculiarities in the thermo-electric behaviour of metals occur at fusion. In the case of lead, tin, zinc, and cadmium there is no perceptible break in the continuity of the curves obtained. In couples containing bismuth, however, several cases were noted in which the E.M.F. remained constant for a wide range of temperature after the fusion of the bismuth. This occurs with silver, aluminium, iron, or nichrom as the other element. Useful applications of this property are discussed.

**Geological Society**, December 6.—Dr. Alfred Harker, president, in the chair.—G. C. **Crick**: Recent researches on the belemnite animal. Attention was con-